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AUTHOR Ghosh, Kalyan; Lundy, Harold W.
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ABSTRACT

Achieving enrollment goals continues to be a major administrative concern in higher education. Enrollment management can be assisted through the use of computerized planning and forecast models. Although commercially available Markov transition type curve fitting models have been developed and used, a microcomputer-based decision planning model designed by Ghosh in the early 1980s has proved to be an excellent tool in attaining the annual enrollment goals over a multi-year planning period. The Ghosh Model was used at Grambling State University in Louisiana. A 10-year projection was produced by conducting trend analysis and use of casual model. Enrollment mandates prompted Grambling State University to adopt innovative recruitment strategies. By the fall of 1985 Grambling State University increased its enrollment by 42.5% over a 5-year period by reversing the steady decline it experienced between 1975 and 1980. This success was possible by approaching enrollment planning through strategic decisions and use of the Ghosh model. (ABL)

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ENROLLMENT PLANNING USING COMPUTER DECISION MODEL: A Case Study at Grambling State University

Kalyan K. Ghosh, Vice Provost
Bloomsburg University, Bloomsburg, PA

Harold W. Lundy, Executive Director, Planning and Analysis
Grambling State University, Grambling, LA

Abstract

By the Fall of 1985 Grambling State University increased its enrollment by 42.5% over a five-year period by reversing a steady decline it experienced between 1975 and 1980. This impressive growth was possible by approaching enrollment planning through strategic decisions and using a computerized interactive decision model developed by Ghosh. A ten year projection was produced by conducting trend analysis and use of casual models. Annual goals were then fed into the Ghosh model. This model is unique in that, unlike curve fitting models, it uses annual numerical goals to forecast enrollment mandates over a multi-year planning period. Enrollment mandates prompted GSU to adopt innovative recruitment strategies to achieve the enrollment success.

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Kalyan K. Ghosh, Vice Provost
Bloomsburg University, Bloomsburg, PA

Harold W. Lundy, Executive Director, Planning and Analysis
Grambling State University, Grambling, LA

Introduction

Achieving enrollment goals continues to be a major administrative concern since the early seventies and is predicted to continue until the anticipated demographic upturn occurs in the mid-nineties. Confronting this onerous challenge, colleges and universities have been using a variety of innovative strategies to stabilize or increase enrollment. In many institutions enrollment planning has now become a significant centralized planning effort.

The enrollment planning and management can be meaningfully assisted through the use of computerized planning and forecast models. Although commercially available Markov transition type curve fitting models have been developed and used by some, a microcomputer-based decision planning model designed by Ghosh in the early 1980's has proved to be an excellent tool in attaining the annual enrollment goals over a multi-year planning period. Grambling State University has been using this decision model since the 1981-82 academic year and by 1985-86 it has increased enrollment at an average annual growth rate of 8.5%. Considering the fact that Grambling State University enrolls predominantly black students and nation wide enrollment of blacks in higher education has decreased over the same period, the success of Grambling is quite impressive.

The Enrollment Planning Model: Ghosh enrollment planning model is a decision tool that determines the numerical basis of recruitment mandates in first-time, transfer, and graduate students for an institution for a multi-year planning period. The model originally designed for use in a microcomputer system with only 32K memory capacity uses the executive decision data on total enrollment goals as well as goals by various academic programs. Historical performance factors on retention and promotion by each

class group (i.e., freshman, sophomore, junior, and senior), graduation rate, graduate enrollment quota and other variable parameters are used to forecast the number of freshmen/first-time, as well as transfer and graduate students, needed to attain the total enrollment goals for a given year. This total enrollment goal is also matched at a detailed level with enrollment goals by each academic major. The fundamental difference of this model compared to longitudinal progression and regression models is that the model does not attempt to project longitudinal or regressive enrollment possibilities for an institution based upon historical enrollment patterns. The limitation of these so-called curve fitting models are that they assume the environmental and internal conditions which existed in the past will by-and-large remain the same in the future. The Ghosh decision model is totally futuristic in the sense that it requires the institution to establish its long-range enrollment goals through a strategic planning process in relation to the mission, program/service and clientele profile for future years. In this regard, the Ghosh model may appropriately be called a casual model since it relies heavily on cause-effect relationship on internal strengths and weaknesses as well as external market conditions.

The model is termed "decision" rather than "projection" because it provides, in an interactive mode, numerical answers to "what if" inquiries on a variety of parameters which contribute to the total enrollment make-up of the institution. After examining the effects of multiple scenarios on the enrollment, the user decides on a realistic and final enrollment goal. With the input of the base year goal data and decision functions for future years, the model generates numbers on the new students in various categories and classifications who must be recruited to fulfill the enrollment goals. In forecasting these numbers, the model uses the historical performance of the institution on such ratios as contact to application, applications to admission, and admissions to matriculation.

Other variable planning regimen which compose the overall enrollment make-up of the institution incorporated into the model for the purpose of forecasting are the

following: male/female, in-state/out-of-state/foreign, resident/commuters, program majors, degree varieties (e.g. master's, bachelor's, associate), age group distribution, family income group distribution, etc. The benefit from the use of the model is not limited to enrollment mandates and recruitment strategy development but to a variety of other short and long-range planning/ management tasks such as: course and curriculum offerings, revenue estimation, long-range financial forecasting, housing, student life programs, faculty resource, to name a few.

Grambling State Case Study: Grambling State University, located in Grambling, Louisiana, is one of the nineteen state-supported universities in the Louisiana System of Higher Education. Historically, the student body of GSU is predominantly black, with a Fall 1984 figure of 96.4%. In recent years, the University was subject to a considerable amount of external constraints on its enrollment due to natural consequences of desegregation and consent decree rulings imposed upon predominantly white institutions in the State which forced them to aggressively recruit black students. GSU's biggest competitor is Louisiana Tech University located in Ruston which is only five miles from Grambling and Northeast University in Monroe which is thirty-five miles from Grambling. Each of these two universities enroll little over 11,000 students.

A ten year enrollment data for 1970 decade shows that GSU experienced a general decline over the ten years. Specifically, between 1975 and 1979, it experienced a decline of 17% (3958 to 3285) or at an annual decline rate of 3.4%. During the same period, Traditional Black Institutions (TBI's) and public TBI's in particular experienced continued enrollment growth.

Facing this uncontrolled enrollment decline, the University took upon the task of a comprehensive enrollment planning to reverse the trend. The Office of Planning and Analysis was immediately engaged to conduct trend analysis by using a curve-fitting model designed by Management System Software, Inc. Considering the fact that past trends may not be the sole indicators of the future, the University also engaged in a strategic analysis for its future. This initiative was further prompted at that time

(1980-81) by the possibility of GSU's future enhancements contained in the Consent Decree negotiations between the State of Louisiana and the United States. This Consent Decree ruling is now in force since the 1982-83 year.

Through its strategic decision process the GSU administration resolved to increase its enrollment to a minimum of 4,500 over a six year period ending 1987-88 disavowing the projection of 3,750 for the same period made by the Board of Regents using linear regression analysis method. As a mandate to increase the enrollment progressively, GSU's long-range plan of the early 80's incorporates the adoption of such strategies as: marketing program plans, public relations campaign, increased alumni support, increase in student body in "other races," an expanded and enhanced program/service mix to gain competitive edge over its competitors and to expand its recruitment geographic regions to the entire State of Louisiana and contiguous states in particular, and the United States in general.

Beginning 1981-82 and continuing since then, GSU' Office of Planning and Analysis uses the Ghosh enrollment decision model to determine the recruitment mandates to be used in annual task and strategy formulation in achieving annual enrollment goals. Since the 1980-81 year, through the combination of the use of decision model and innovative strategies, GSU's fall enrollment has grown to an impressive 4,925 in the fall of 1985. The out-of-state enrollment has grown from 23.74% in 1979 to 35.92% in 1983. The in-state enrollment also grew in number from 2,536 in 1980 to 3,133 in 1984.

Strategic and analytic approach taken by GSU in late seventy and early eighty has proved to have yielded more than expected enrollment and with that GSU's promise as a thriving institution. The GSU case certainly establishes the argument that simple linear progression or regression models have severe limitation in establishing enrollment goals in a dynamic environment. While the authors do emphasize that mere decision modeling does not yield enrollment results, its use certainly catalyses an aggressive strategy for enrollment improvement.